

August 18, 2000

Mr. Gregg R. Overbeck
Senior Vice President, Nuclear
Arizona Public Service Company
P. O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 -
ISSUANCE OF AMENDMENTS ON ADMINISTRATIVE CHANGES TO
TECHNICAL SPECIFICATION FIGURE 3.5.5-1, "MINIMUM REQUIRED RWT
VOLUME" (TAC NOS. MA9210, MA9211, AND MA9212)

Dear Mr. Overbeck:

The Commission has issued the enclosed Amendment No. 127 to Facility Operating License No. NPF-41, Amendment No. 127 to Facility Operating License No. NPF-51, and Amendment No. 127 to Facility Operating License No. NPF-74 for the Palo Verde Nuclear Generating Station, Units 1, 2, and 3, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 6, 2000.

The amendments revise the information in Figure 3.5.5-1, "Minimum Required RWT Volume," in TS 3.5.5, "Refueling Water Tank (RWT)," for the three units. The amendments relocate design information to the Bases of the TSs, truncate the lower end of the RWT limit curve at 210 °F, retitle the right-hand ordinate from "minimum useful volume required in the RWT" to "RWT Volume," and delete the two footnotes and the references to the footnotes.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Jack N. Donohew, Senior Project Manager, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,
and STN 50-530

Enclosures: 1. Amendment No. 127 to NPF-41
2. Amendment No. 127 to NPF-51
3. Amendment No. 127 to NPF-74
4. Safety Evaluation

cc w/encls: See next page

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TS Page ML003742410

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ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 6, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 127, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: August 18, 2000

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. NPF-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 6, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-51 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 127, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: August 18, 2000

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-530

PALO VERDE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. NPF-74

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 6, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-74 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 127, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: August 18, 2000

ATTACHMENT TO LICENSE AMENDMENT NOS. 127, 127, AND 127

FACILITY OPERATING LICENSE NOS. NPF-41, NPF-51, AND NPF-74

DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3.5.5-3

INSERT

3.5.5-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. NPF-41,
AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. NPF-51,
AND AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. NPF-74
ARIZONA PUBLIC SERVICE COMPANY, ET AL.
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3
DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

1.0 INTRODUCTION

By application dated June 6, 2000, the Arizona Public Service Company (the licensee) requested changes to the Technical Specifications (TSs) for the Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The Arizona Public Service Company submitted this request on behalf of itself, the Salt River Project Agricultural Improvement and Power District, Southern California Edison Company, El Paso Electric Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority. The proposed changes would revise information in Figure 3.5.5-1, "Minimum Required RWT Volume in TS 3.5.5, Refueling Water Tank (RWT)," of the TSs for the three units. The amendments are administrative changes to the figure that would (1) relocate design information to the Bases of the TSs, (2) truncate the lower end of the RWT limit curve at 210 °F, (3) retitle the right-hand ordinate from "minimum useful volume required in the RWT" to "RWT Volume," and (4) delete the two footnotes and the references to the footnotes.

The proposed amendments revise TS Figure 3.5.5-1 that specifies the minimum required RWT volume as a function of the average reactor coolant system (RCS) temperature. The RWT provides a source of borated water for emergency core cooling system (ECCS) and the containment spray system (CSS), both of which are engineered safety feature (ESF) systems. The RWT also provides borated water for the charging system for makeup to the RCS to compensate for contraction of the RCS coolant during plant cooldown while maintaining adequate shutdown (S/D) margin.

2.0 EVALUATION

In its application, the licensee stated that the minimum required RWT volume limits in TS Figure 3.5.5-1 are not being changed in the proposed amendments.

The design information to be relocated to the TS Bases is the following: the references in TS Figure 3.5.5-1 to the ESF volume plus margin and the cold S/D volume plus margin, and the dotted line separating the references. The ESF volume plus margin appears in the figure as

the volume below the dotted line parallel to the abscissa of the figure and the cold S/D volume plus margin appears in the figure as the volume above the dotted line. This would imply that the RWT contains separate volumes, one for ESF use and one for cold S/D use.

The RWT supports the emergency core cooling system and the containment spray system, ESF systems, by providing a source of borated water for ESF pump operation during the design basis loss-of-coolant accident (LOCA) and for the reactor to remain subcritical following a LOCA. The RWT also provides a source of borated water to the charging system for makeup to the RCS to compensate for contraction of the RCS coolant during plant cooldown while maintaining adequate S/D margin. Because these two borated water requirements do not occur at the same time, the only important volume is the required RWT volume that bounds the two uses of the RWT. Removing the references to the ESF and cold S/D volume plus margin in the figure will remove confusion from the figure because there is in fact not separate volumes in the tank for each of the two uses of the RWT. Because the proposed deletion of the references to ESF and cold S/D volume will remove confusion from the figure and will not change the required volume of RWT, the staff concludes that the proposed removal of the references to the ESF and S/D volumes with margins and the dotted line is acceptable.

With respect to the proposed change to truncate the RWT limit curve in TS Figure 3.5.5-1 to the lowest RCS temperature for reactor Mode 4, hot shutdown, the licensee stated that the proposed change would be a human factors enhancement for the control room operators. The current TS Figure 3.5.5-1 has 120 °F as the lower limit of the RCS temperature. The licensee stated further that having the RWT limit curve go below 210 °F may cause confusion by showing limits for operating conditions outside the applicable modes for the RWT. The RWT is required to be operable for only Modes 1 through 4. Because the lowest cold leg temperature in TS Table 1.1-1 for Mode 4 is 210 °F, the lowest RCS temperature for which the RWT volume is required is the lower temperature limit of Mode 4, or 210 °F. The staff finds that truncating the RWT limit curve at 210 °F would eliminate potential confusion to the operators because the RWT is not required to be operable below 210 °F. The remaining portion of the figure above 210 °F is not being changed. Because the required volume of the RWT, for the temperatures when the RWT is required to be operable, is not being changed, the staff concludes that truncating the figure at 210 °F is acceptable.

In addition to the above proposed change, the licensee proposed to retitle the right ordinate from "Minimum Useful Volume Required in The RWT " to "RWT Volume." The licensee stated that the change in title would make the left-hand abscissa more consistent with the title of the figure, "Minimum Required RWT Volume." The change in title is a clarification that does not affect the required RWT volume limits in the figure; therefore, the staff concludes that the proposed change in title is acceptable.

The licensee has also proposed to delete the two footnotes in TS Figure 3.5.5-1 regarding details of the RWT design: (1) that the tank level and volume are the useful level and volume above that in the tank which is required for vortex considerations and (2) the minimum useful volume required in the RWT above 565°F is 600,000 gallons. The references to the footnotes (1) and (2) in the figure would also be deleted. The first footnote contains design information about the RWT.

In the conference call of August 8, 2000, the license explained that the zero level of the RWT is the level below which the volume is unusable because of vortex considerations. In item 7.16.1

of Section 6.5.2.8 of the PVNGS Updated Final Safety Analysis Report (UFSAR) on the RWT, there is the statement that the vortexing tendencies within the tank are precluded by a suction cage within the tank. Therefore, the usable level and volume of the RWT is above the zero level and TS Figure 3.5.5-1 will represent the required volume of the RWT needed for the ESF and cold S/D. To clarify the UFSAR, the licensee stated that a sentence similar to footnote (1), that the required RWT volume is the useful level and volume above that needed for vortex considerations, will be added to the UFSAR Section 6.5.2.8.

The 600,000 gallons required in the RWT above 565°F in footnote (2) is also given at the top of TS Figure 3.5.5-1 where there is the statement "600,000 GAL. (565°F)" with an arrow toward the right-hand side of the figure.

The licensee stated that the deletion of the footnotes would eliminate unnecessary or redundant information from the figure in that footnote 1 provides no useful information to the plant operators to ensure compliance with the RWT volume limits in TS Figure 3.5.5-1, and footnote 2 is redundant to the information provided elsewhere in the figure. The staff concludes that neither footnote is needed for the figure to convey the minimum required RWT volume as a function of the average RCS temperature or otherwise is needed to satisfy the criteria of 10 CFR 50.36 for inclusion in the TS. Therefore, the proposed change to delete the two footnotes from TS Figure 3.5.5-1 is acceptable.

Based on the above evaluation, the staff concludes that the proposed amendments to TS Figure 3.5.5-1 for the three units are acceptable. There are no changes to the requirements for minimum RWT volume in the revised figure. The staff notes that the licensee also proposes to make changes to the TS Bases consistent with the proposed amendment.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arizona State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (65 FR 43043). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by

operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Jack Donohew

Date: August 18, 2000

Palo Verde Generating Station, Units 1, 2, and 3

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